

IN THE UNITED STATES PATENT OFFICE

In re Application of  
Hayato Ariyoshi  
Tadashi Takano

App. No.: 10/709882  
Filed: June 3, 2004  
Conf. No.: 3881  
Title: COIL TERMINAL CIRCUIT  
STRUCTURE FOR ROTARY  
ELECTRICAL DEVICE  
Examiner: D. Le  
Art Unit: 2834  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Dear Sir:

**APPELLANTS' CORRECTED BRIEF**

**REAL PARTY IN INTEREST**

In addition to the appellant, the real party in interest is his assignee, Kabushiki Kaisha Moric, a Japanese company.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences that would have a bearing on or be affected by the decision in this appeal.

**STATUS OF CLAIMS**

Claims 1-7 and 9-13 remain in this application and claim 8 was cancelled during the prosecution. Claims 1-7 and 9 have been indicated as being allowed.

The rejection of claims 10-13 is being appealed.

**STATUS OF AMENDMENTS**

No amendment was proposed in response to the Final Rejection and thus the claims before the Board are as finally rejected.

**SUMMARY OF CLAIMED SUBJECT MATTER**

Applicants invention as described in independent claim 10, the only independent claim before the Board is directed to a coil terminal circuit structure for a rotary electrical device such as an electric motor or generator having multiple phases. In such machines, each phase is comprised of a plurality of coil windings groups of which are wired together. Generally these phases are all wound around circumferentially spaced pole teeth in any of a plurality of winding patterns.

The ends of the coil windings are frequently all brought out to one axial end of the machine for electrical connection to a source of multi phase electrical current, in the case of a motor, or to a receiver for collecting electrical power, in the case of a generator. The disadvantages of the prior art constructions is that the terminal ends of the various phases are spaced at different axial and radial positions and have generally the same configuration. Thus the final wiring connections must be manually made resulting in the possibility of mistakes being made and substantial cost penalties. The invention addresses and solves these problems by using the arrangement called out in claim 10 that is set out below and where the support in the specification and drawings is pointed out.

The preamble of the claim states a "terminal structure for interconnecting coil ends". In the embodiment of FIG. 1 this construction is identified generally by the reference numeral 67 and is first described in paragraph [0048]. The coils are each wound around pole teeth that extend radially from a core 59 first described in paragraph [0046]. The machine is "a plural phase rotary electrical machine" described in this embodiment as an electric motor designated at 51 and first described in paragraph [0044]. This terminal structure 67 is adapted to be mounted at one axial end of the core 59 having a plurality of circumferentially spaced pole teeth around which electrical coils are wound, as set forth in paragraph [0048], as previously stated. The terminal structure comprises a plurality of interconnected conductors equal in number to at least the number of phases and bonded in spaced relationship to each other, as again set out in paragraph [0048] and as shown in the electrical schematics of FIGS. 2 or 3 and 5 and 6A-6C. Also as shown in each of FIGS. 6A-6C, the interconnected conductors of each of said phase each having at least two circumferentially spaced terminal end portions (the numbered ends 1-35 of FIGS 5 and 6A-6C) for receiving a coil wire end from a respective one of said coil windings.

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Each of the claims before the Board has been independently rejected by the Examiner under 35 USC 102(b) on Kondo et al US Patent 5,900.687. Therefore the burden is on the Examiner to point out how each limitation of each claim is fully anticipated by this reference.

**APPELLANT'S ARGUMENTS**

**All Claims**

As noted above, it is the Examiner's obligation to establish by a prima facie case that the structure of each claim is fully met by the disclosure of the cited reference. It is most respectfully submitted that he has not met this burden.

In the first instance it is most respectfully submitted that the disclosure in the reference is so sketchy that it is nearly impossible to determine from the reference alone what it teaches, if anything. Turning specifically to the disclosure of the reference, the exploded view of FIG. 1 shows a pole blade 1 of the core around which coils 2 are wound. The ends of these windings appear in FIGS. 5, 6 and 7, although unnumbered, and enter "a calking member 9" (see column 4, lines 19-21) to establish "the connection between the coil winding and the electrical conductor" which electrical conductor is not identified by any part number. The Board's attention is directed to the fact that the "calking member 9 is shown in FIGS 5 and 6 as extending radially and in FIG. 7 as extending axially. Which is it? This is important because it deals with the location of the connection between the coil ends and the terminal end portions.

**Claim 11**

This is specifically relevant when claim 11 is considered since it requires these ends to be "axially spaced from each other". In neither case of the references FIGS. 5, 6 or FIG. 7 is there any axial spacing.

**Claim 13**

Also the Examiner should explain how the reference can fully meet both claims 11 and 13 since 11 requires axial spacing while 13 calls for them to be in a common axial plane. Can the Examiner have it both ways, because of a conflict between its own disclosure of what purports to be the same embodiment.

Summary

In summary it must be admitted that the invention here, in retrospect, looks simple. However, it is the elegance of this simplicity that makes the concept claimed truly inventive. A reversal of the Examiner's position is respectfully requested.

Respectfully submitted:



Ernest A. Beutler  
Reg. No. 19901

Phone (949) 721-1182  
Pacific Time

~~Attachment: Credit Card Authorization for Brief Fee~~

**APPENDIX**

**CLEAN COPY OF CLAIMS ON APPEAL**

10. A terminal structure for interconnecting coil ends in a plural phase rotary electrical machine and adapted to be mounted at one axial end of a core having a plurality of circumferentially spaced pole teeth around which electrical coils are wound, said terminal structure comprising a plurality of interconnected conductors equal in number to at least the number of phases and bonded in spaced relationship to each other, the interconnected conductors of each of said phase each having at least two circumferentially spaced terminal end portions for receiving a coil wire end from a respective one of said coil windings.

11. A terminal structure as set forth in claim 10 wherein the phases are axially spaced from each other.

12. A terminal structure as set forth in claim 11 wherein each phase-specific terminal member is made of plural connecting pieces comprised of arcs of concentric circles.

13. A terminal structure as set forth in claim 11 wherein the interconnected conductors of each of the phases all lie in a common axial plane.

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None

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**COPIES OF DECISIONS**  
**IN RELATED APPEALS AND INTERFERENCES**

None